

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

166.3
M68
no. 15

Cop. 1

✓
FARM CREDIT ADMINISTRATION
Cooperative Division
Washington, D. C.

**OPERATING STATUS OF
NEBRASKA COOPERATIVE GRAIN ELEVATORS
1935-36**

★ ★ ★

By

Harold Hedges

Research, Service, and Educational Series

INV. '60

Miscellaneous Report No. 15

July 1937

FARM CREDIT ADMINISTRATION

W. I. Myers, Governor

COOPERATIVE DIVISION S. D. Sanders, Commissioner

Research, Service, and Educational Staff of the Cooperative Division
H. M. Bain, Assistant Commissioner in Charge
W. W. Fetrow, Chief Research Economist

COTTON

Omer W. Herrmann
Otis T. Weaver
John S. Burgess, Jr.

HISTORY AND STATISTICS

R. H. Elsworth
French M. Hyre

DAIRY AND POULTRY

T. G. Stitts
D. D. Brubaker
John J. Scanlan
Gordon C. Laughlin
W. C. Welden
Roy W. Lennartson

INSURANCE

V. N. Valgren
F. C. Murphey
Gordon A. Bubolz

FRUITS AND VEGETABLES

A. W. McKay
K. B. Gardner
M. C. Gay
H. C. Hensley
N. Fogelberg
H. W. Mumford, Jr.
J. H. Heckman

LIVESTOCK AND WOOL

C. G. Randell
L. B. Mann
H. H. Hulbert
James M. Coon

PURCHASING

Joseph G. Knapp
John H. Lister
Gerald M. Francis

GRAIN

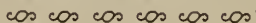
Harold Hedges
Harry E. Ratcliffe
E. B. Ballow

TOBACCO

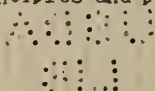
William Collins

TRAFFIC

Charles B. Bowling



The Research, Service, and Educational Staff conducts research studies and service activities relating to problems of management, organization, policies, merchandising, sales, costs, competition, and membership, arising in connection with the cooperative marketing of agricultural products and the cooperative purchase of farm supplies and services; publishes the results of such studies; confers and advises with officials of farmers' cooperative associations; and cooperates with educational agencies, cooperative associations and others in the dissemination of information relating to cooperative principles and practices.



OPERATING STATUS OF NEBRASKA
COOPERATIVE GRAIN ELEVATORS, 1935-36 1/

By Harold Hedges,
Principal Agricultural Economist,
Cooperative Division, Farm Credit Administration

CONTENTS

	Page
Summary	2
Farmers' elevator movement in Nebraska	3
Purpose of study	4
Distribution of farmers' elevators in Nebraska	5
Financial status of Nebraska cooperative elevators in 1935-36	6
Assets, liabilities, and net worth	6
Relation of assets to liabilities	10
Net worth	12
Operating results	14
Management problems of Nebraska farmers' elevators :	17
Cooperative features of organization	17
Number of members	22
Membership and patronage	24
Net income as a measure of efficiency	25
Net income and member-patronage	25
Volume and net income	26
Grain volume and net income	28
Side lines and net income	30
Unit costs of operation	32
Grain volume and per bushel expense	32
Size of elevator plant and costs per bushel	32
Other factors influencing unit costs	33
Conclusions	34

1/ This study was undertaken by the Cooperative Division of the Farm Credit Administration in cooperation with the Extension Service and the Department of Rural Economics of the Nebraska College of Agriculture. Appreciation is due the managers of the cooperative elevator associations who gave of their time, and made available the records of their associations. Material assistance was also given by the officers of the several regional service and marketing agencies which serve Nebraska farmers' elevators.

SUMMARY

Financial and operating data were obtained from 130 Nebraska farmers' elevators for the fiscal year of each, corresponding as closely as possible with the 1935-36 crop year. These are fairly representative of approximately 340 farmer-owned grain elevators operating at about one-half the grain shipping points within the State.

The majority of the 130 elevators studied were in strong financial condition, despite depression and drought during the last decade. The average value of assets per association was \$27,897, in which the equity of stockholder-members was about 80 percent.

The farmers' elevators in northeast Nebraska represented a larger investment in business, on the average, than did those in southeast or southwest Nebraska. This increased investment was represented by a larger side-line inventory, more receivables, and somewhat more extensive facilities - all mainly due to greater emphasis on side-line activity.

Only 34 percent of the 130 elevators studied had total liabilities exceeding 20 percent of total assets, and only 15 percent had liabilities exceeding 40 percent of all assets.

Eighty-one percent of these associations had current assets of at least \$2 for each \$1 of current liabilities, and only 5 percent lacked sufficient current assets to cover their current liabilities.

Two-thirds of the 130 organizations had net worth amounting to 80 percent or more of the total value of assets. In 15 percent of the cases the membership equity was less than 60 percent of total assets.

Despite conditions conducive to low volume in 1935-36, 69 percent of the 130 associations had net incomes. Fewest losses occurred among the southeast Nebraska elevators, but northeast Nebraska had the highest proportion with net incomes of \$4,000 or more.

Northeast Nebraska associations obtained 70 percent of their gross operating income, on the average, from side lines and services, while southeast and southwest Nebraska elevators obtained 65 percent of such income from grain.

Of 129 elevators reporting on organization set-up the majority had provisions limiting dividends on capital, providing for one vote per member, restricting transfers of capital stock and providing for patronage dividends for members. Less than one-fourth reported provision for setting up patronage dividends for nonmembers.

Those associations making provision for patronage dividends for nonmembers had an average of 136 producer-members; associations not having that provision, 112.

Associations having capital stock in shares of \$25 or less par value had an average of 143 producer-members as compared with 89 for those elevators having stock of higher par value. The former associations had a larger proportion of tenants in their memberships.

About three-fourths of the members of 95 Nebraska farmers' elevators patronized their own associations. About 85 percent of the members were active producers. Nearly 90 percent of the producer-members were patrons.

The associations with larger memberships were those most frequently reporting net incomes. Larger membership usually resulted in larger business volume, both of grain and of side lines.

Elevators handling small volumes of grain but having considerable income from side lines were in better operating position than those having little side-line income.

As grain volume per elevator increased, operating expense per bushel tended to decrease, until a volume of 150,000 bushels or more was reached.

When grain volume was small, plants of small capacity had lower costs per bushel. When volume exceeded 100,000 bushels, the larger-capacity plants had lower costs per bushel.

Associations making most effective use of employees' services, as indicated by sales per dollar paid in salaries and wages, had lowest expense per dollar of sales.

Elevators making most effective use of the physical facilities, as indicated by sales per dollar invested in fixed assets, had lowest expense per dollar of sales.

FARMERS' ELEVATOR MOVEMENT IN NEBRASKA

The farmers' elevator movement started in Nebraska in the late eighties. Opposition was strong at the outset and little progress was made until the early years of the present century. Once established, however, the movement gained momentum, until, in 1921 farmers' elevators were located at nearly two-thirds of the grain shipping points in the State and their influence was generally felt at all such shipping points.

The first farmers' elevators in Nebraska were farmers' stock companies organized under the general corporation laws of the State. By 1911 when the first cooperative law appeared on the statute books of Nebraska, probably less than 200 farmer-owned elevators had been formed.^{2/} The greatest expansion in number occurred during the next 5 years. Many of the older farmers' stock companies took advantage of the cooperative law and reorganized as cooperatives, but a few still retained their original legal form. In 1925 a nonstock cooperative law was added to the Nebraska statutes, but it has been used very little by cooperative elevator organizations.

The peak in number of active farmers' elevators was reached about 1921 when there were 465 farmer-owned elevators reported for the State.^{3/} In 1936 about 340 of the 1,100 elevators operating at 685 shipping points in Nebraska were owned by farmers.^{4/} This decline in number, however, has not necessarily meant a decrease in the proportion of the farmers' grain handled by their own associations. It has indicated, rather, that the less efficient organizations - both private and farmers' - have disappeared. The associations remaining are serving larger territories and handling relatively larger volumes than in the earlier years when they were more in number.

The Cooperative Division has in its files information on 312 cooperative grain elevators in Nebraska. Nine of these associations have branch units at 17 shipping stations, thus bringing the total of cooperative elevators on record to 329. Data are lacking for the remainder of the 340 operating units considered as farmers' elevators. In addition to these 340 farmers' elevators, there are a number of associations whose facilities are closed temporarily or leased to other concerns because of poor crops. The return of more nearly normal crop conditions may result in many such organizations becoming active again.

PURPOSE OF STUDY

In order to determine the current financial and operating policies of farmers' cooperative grain elevators in Nebraska, and to develop more practical business standards based on the operating

^{2/} See: Filley, H. C. Cooperative Elevators. Nebr. Agr. Expt. Sta. Bull. 64, 20 pp. 1921. See p. 11.

^{3/} See reference cited in footnote 2.

^{4/} Data on elevator facilities obtained from: Directory of Nebraska Farmers Elevators (1937) issued by Farmers Elevator Association of Nebraska, Co-operative, Omaha, Nebr.

experience of the elevators themselves, this study was begun in the summer of 1936. It was believed that such a study would be of value to the individual associations by enabling them to estimate their own accomplishments in the light of those of other associations operating under similar conditions; and to adjust any deficiencies in their own organization and operating policies which such comparisons might reveal.

Data were obtained from examination of the records of 130 Nebraska grain cooperatives and through personal interviews with their managers. The financial and operating information obtained covered one fiscal year for each association. The majority of the records were for the fiscal year closing December 31, 1935, although several associations had closed their fiscal year at earlier dates and a few others closed their books in the early months of 1936.

Farmers' elevators are forced to operate under conditions which vary widely from year to year. Hence, several years of study are desirable if a complete cross section of those conditions is to be obtained. Since the study reported herein covered operations of Nebraska farmers' elevators for only one fiscal year, the results can be considered only as suggestive of what additional studies will show, rather than as final and conclusive. The study is being continued to cover operations in 1936-37.

DISTRIBUTION OF FARMERS' ELEVATORS IN NEBRASKA

Farmers' elevators are distributed throughout the grain-producing areas of Nebraska (fig. 1). The larger number are to be found south of the Platte River - a section which is normally a surplus grain area. Few are located north of the Platte, except in northeastern Nebraska and in the far western or "Panhandle" section.

Basic conditions affecting elevator operations vary considerably, not only from year to year, but in the different areas of the State. For purposes of this study, therefore, the cooperative elevators from which data were obtained have been divided on an area basis as follows: Area 1 - northeast Nebraska; Area 2 - southeast Nebraska; and Area 3 - southwest Nebraska. No records were obtained from associations in the western or "Panhandle" section because most of the associations there close their fiscal year near the middle of the calendar year, and 1935-36 records were not yet available at the time the survey was conducted.

Northeast Nebraska is an area of intensive feed grain production, and for many years much of it moved to market. With the gradual increase in livestock production and the consequent increase

in the quantity of grain used for feed, the volume marketed decreased and at present comparatively little of the grain in this section moves out of the community in which it is produced. The decrease in volume of grain marketed has presented a difficult operating problem to cooperative elevators in the area, most of which were established before this condition arose. Elevators which adjusted themselves to the changing conditions by adding various side lines to increase business volume, or by adopting other means of meeting the situation, remain today. Others unable to deal with the problem successfully have discontinued operations.

Southeast Nebraska (area 2) is a general farming area. Both wheat and corn are grown as cash crops on many farms, and a considerable volume of grain moves to market. Grain handling is more important and side-line activities less important here than in northeast Nebraska, where little wheat is grown.

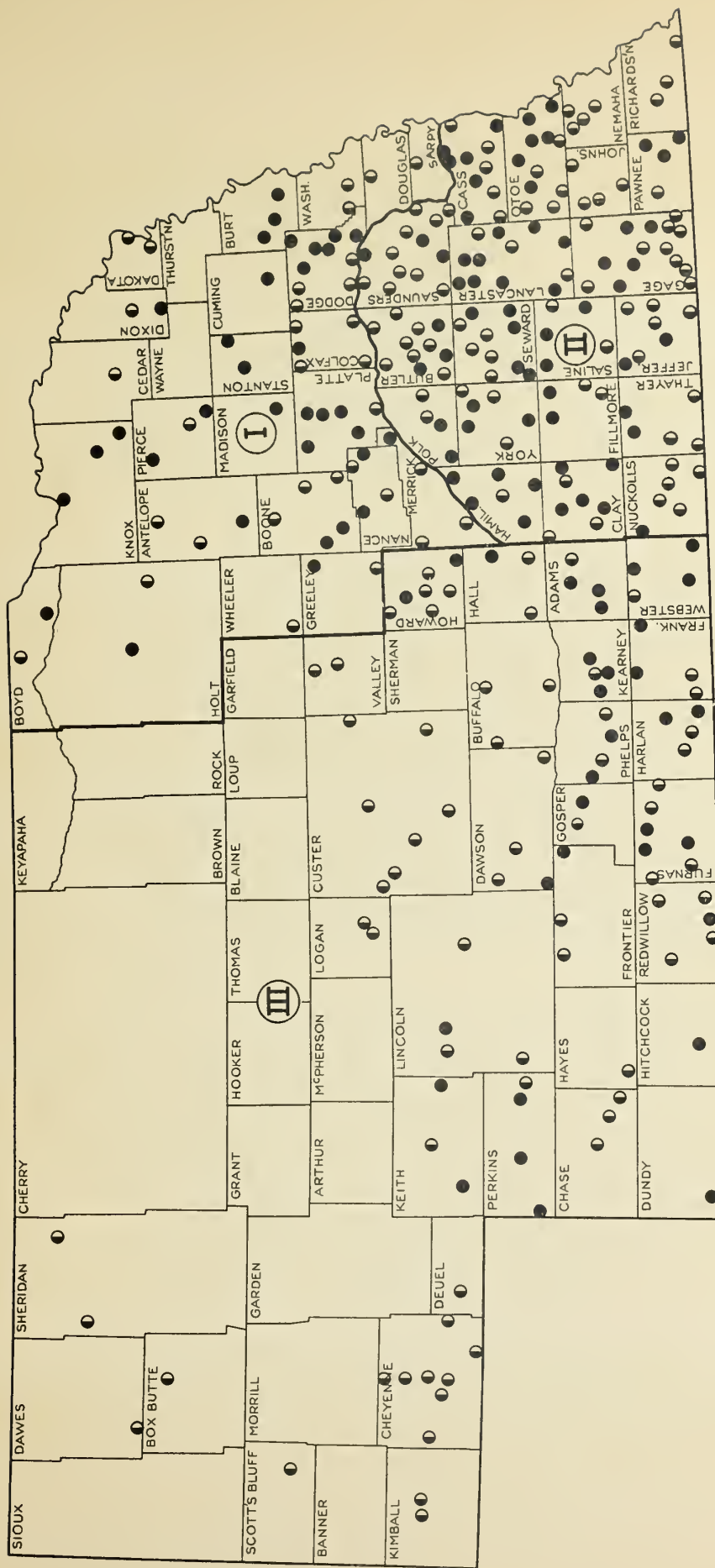
Southwest Nebraska (area 3) is more of a cash grain section than is southeast Nebraska. Both corn and wheat are important cash grain crops. Crop yields vary widely from year to year and, as a result, there is great yearly variation in the volume of grain handled by the elevators. Livestock production is limited somewhat to the number that can be fed on the minimum feed output of the area, so in years of good yields there is a considerable volume of surplus feed grains as well as wheat to move to market. Because of this variability in volume, the cooperative elevators of the area have been giving more attention to side lines than have those in area 2 in an effort to assure a source of income in years when grain volume is small.

FINANCIAL STATUS OF NEBRASKA COOPERATIVE ELEVATORS IN 1935-36

The combination of depression and drought conditions which Nebraska cooperative elevators have experienced during the last decade has provided a real test of their ability to withstand adversity. Those associations which have survived are largely those which have maintained a strong financial position throughout the period. Evidence of this is to be found on the balance sheets of the 130 elevators for which financial information was obtained, as they appeared in late 1935-36. A limited number of the associations are weak financially but the large majority are in strong financial position.

Assets, Liabilities, and Net Worth

The average value of the total assets of the 130 Nebraska associations studied was \$27,897 per association. If this figure may be taken as a fair average of the total assets of other farmers' elevators of the State, then Nebraska farmers had nearly \$9,000,000



- ELEVATORS INCLUDED IN STUDY
- ELEVATORS NOT INCLUDED IN STUDY

Figure 1. - FARMER-OWNED ELEVATORS IN NEBRASKA, 1936.

The greatest concentration of farmer-owned elevators is to be found in Area II, Southeast Nebraska. Grain handling is more important here and side-line activities less important than in Northeast Nebraska.

invested in their elevator businesses in 1936. Close to 40 percent (\$3,500,000) was invested in fixed assets, mainly buildings and equipment, the average depreciated value of the fixed assets of 130 associations being \$10,855 per association.

The capital needed to finance the \$9,000,000 grain business was largely put up by the farmers themselves. Their equity in their own grain marketing organizations was about \$7,200,000, 80 percent of the total value of all assets. This offers evidence of little dependence on borrowed money in financing their business. The total of all liabilities was approximately \$1,800,000. About 20 percent of this amount consisted of dividends payable, set up at the end of the fiscal year.

The average of balance sheets of the elevators in each of the three sections is shown in table 1. In preparing the average of balance sheets, the original audits were adjusted in several respects before being combined. Receivables, which were shown in the audits as current assets, were not all so considered here but were adjusted according to collectibility. Those considered by the managements to be slow were grouped with other assets and those stated to be uncollectible (over the amount reserved for bad debts) were charged off against surplus. In cases where dividends were set up immediately after the audit date, the amounts were placed in current liabilities as dividends payable and the surplus accounts reduced accordingly. In instances where no depreciation charge was set up, an estimated amount to cover this item was included in expenses. Hence the balance sheets as presented here more nearly reflect the actual current financial status of the elevators than if the audits had been combined without adjustments.

It may be seen that differences in the nature and amount of the asset and liability items exist among the different areas. From the standpoint of asset valuation, the farmers' elevators of northeast Nebraska are substantially larger than those in the other two areas. This is largely the result of the much greater emphasis given to their side-line business. The average value of side-line inventory in area 1 is 4 to 5 times as much as that in the other two areas. More of the assets in area 1 are in the form of receivables - another result of greater side-line activity. The investment in fixed assets is likewise larger in area 1, mainly because of a need for added buildings and equipment in handling side lines.

Although there is considerable similarity in the average of balance sheets of the farmers' elevators in areas 2 and 3 (see table 1), the elevators of area 2 had larger grain inventories, smaller side-line inventories, and fewer assets in the form of investments than

Table 1.- Balance sheets for Nebraska cooperative elevators by areas,
as of the close of business, 1935-36

	Average of 33 northeast Nebraska cooperative elevators (area 1)		Average of 64 southeast Nebraska cooperative elevators (area 2)		Average of 33 southwest Nebraska cooperative elevators (area 3)	
<u>ASSETS</u>						
<u>Current:</u>						
Cash	\$ 3,031		\$ 4,324		\$ 4,446	
Receivables-patrons	3,944		1,317		1,074	
Receivables-commission co.	6		78		78	
Inventory-grain	\$ 3,564		\$ 3,097		\$ 2,040	
side lines	<u>10,991</u>	14,555	<u>1,928</u>	5,025	<u>2,474</u>	4,514
Other	58		36		15	
Total current	21,594		10,780		10,127	
<u>Other:</u>						
Receivables (slow)	4,803		1,847		2,030	
Less reserve-bad debts	<u>2,701</u>	2,102	<u>773</u>	1,074	<u>802</u>	1,228
Stock notes receivable	0		103		0	
Closed bank claims	170		173		136	
Investment and misc.	<u>462</u>		<u>956</u>		<u>2,221</u>	
Total other	2,734		2,306		3,585	
<u>Fixed:</u>						
Land, building and equipment .	27,352		15,399		16,038	
Less: depreciation reserve .	<u>12,083</u>	15,269	<u>6,512</u>	8,887	<u>7,630</u>	8,408
TOTAL - ALL ASSETS	<u>39,597</u>		<u>21,973</u>		<u>22,120</u>	
<u>LIABILITIES AND NET WORTH</u>						
<u>Current Liabilities:</u>						
Bank overdraft	\$ 34		\$ 12		\$ 3	
Accounts payable	972		484		365	
Stored grain liability	9		3		31	
Notes payable	4,194		903		769	
Dividends payable	1,335		1,087		541	
Accrued expense	157		96		117	
Other	0		33		3	
Total current	\$ 6,701		\$ 2,618		\$ 1,829	
<u>Deferred Liabilities:</u>						
Mortgage-notes payable	546		1,197		1,895	
Other notes payable	0		317		455	
Other	<u>49</u>		<u>73</u>		<u>0</u>	
Total deferred	595		1,587		2,350	
TOTAL LIABILITIES	7,296		4,205		4,179	
<u>Net Worth:</u>						
Capital stock	30,161		13,038		12,483	
Capital stock credits	209		224		887	
Reserves	712		522		1,197	
Surplus	<u>1,219</u>		<u>3,984</u>		<u>3,374</u>	
Total net worth	<u>32,301</u>		<u>17,768</u>		<u>17,941</u>	
<u>TOTAL LIABILITIES AND NET WORTH</u>						
	<u>39,597</u>		<u>21,973</u>		<u>22,120</u>	

did those of area 3. Elevators in both areas 2 and 3 had a materially larger proportion of current assets in the form of cash than did those of area 1.

Average balance sheets as shown in table 1 may cover up wide variations among the elevators in each group. For example, there is a very wide variation in asset valuations in area 1. The smallest amount of assets for any one elevator in that section was slightly over \$5,000 and the largest nearly \$161,000. The classification according to asset valuation of the elevators of each area, and of the State as a whole is shown in table 2.

Table 2.- Classification of Nebraska cooperative elevators on the basis of total asset valuation, 1935-36

Total valuation of assets	State		Area 1, : northeast : Nebraska		Area 2, : southeast : Nebraska		Area 3, : southwest : Nebraska	
	Number	Per-	Number	Per-	Number	Per-	Number	Per-
	of associ- ations	centage of total	of associ- ations	centage of total	of associ- ations	centage of total	of associ- ations	centage of total
Less than \$10,000	11	8.5	3	9.1	6	9.4	2	6.1
\$10,000 - \$19,999	54	41.5	10	30.3	27	42.2	17	51.5
\$20,000 - \$29,999	32	24.6	3	9.1	21	32.8	8	24.3
\$30,000 - \$39,999	11	8.5	6	18.2	4	6.2	1	3.0
\$40,000 - \$49,999	8	6.2	2	6.1	3	4.7	3	9.1
\$50,000 - \$59,999	4	3.1	1	3.0	2	3.1	1	3.0
\$60,000 - \$69,999	5	3.8	3	9.1	1	1.6	1	3.0
\$70,000 or more	5	3.8	5	15.1	0	0	0	0
Total	130	100.0	33	100.0	64	100.0	33	100.0

Elevators having total assets of between \$10,000 and \$20,000 formed the largest group in each of the three areas. In area 1 a relatively large number - more than a fourth - had asset valuations in excess of \$50,000. Nearly all elevators with higher asset valuations were those which carried on an extensive side-line business.

Elevators in area 1 had larger total liabilities than those in the other two sections but the relationship of such liabilities to asset valuations was practically the same (table 1). The same holds true for total net worth. Elevators in area 1, however, carried relatively smaller surpluses than did those in other areas since they face less variation in business volume from year to year.

Relation of Assets to Liabilities

The average balance sheets of farmers' elevators in the three areas of Nebraska (table 1) reveal a strong financial position for them as groups. There are, of course, some weak organizations included in each of the area groups, but they are in the minority. As evidence of this fact, only 34 percent of the 130 elevators studied had liabilities in excess of 20 percent of total assets (see table 3) and only 15 percent had liabilities in excess of 40 percent of total assets. In other words, two-thirds of the associations had sufficient assets to cover total liabilities four or more times, and 85 percent had enough assets to cover all liabilities one and a half or more times. There remained, therefore, only one-seventh of the elevators having serious financing problems to meet.

Table 3.- Relationship between valuations of total assets and total liabilities of Nebraska cooperative elevators, 1935-36

	State		Area 1, northeast Nebraska		Area 2, southeast Nebraska		Area 3, southwest Nebraska	
Relation of total assets to total liabilities	Number of associ- ations	Per- centage of total	Number of associ- ations	Per- centage of total	Number of associ- ations	Per- centage of total	Number of associ- ations	Per- centage of total
Liabilities 20 percent or less of assets.	86	66.2	21	63.6	42	65.6	23	69.7
Liabilities 21 - 40 percent of assets.	25	19.2	8	24.3	11	17.2	6	18.2
Liabilities more than 40 per- cent of assets.	19	14.6	4	12.1	11	17.2	4	12.1
Total	130	100.0	33	100.0	64	100.0	33	100.0

From the viewpoint of successful operation, a better measure of the ability of an association to meet its pressing obligations is the relationship between current assets and current liabilities. Ordinarily a business is considered to be in a safe operating position if it has at least \$2 in current assets for each dollar in current liabilities. Eighty-one percent of the 130 Nebraska associations were in that position (table 4). Fourteen percent of the elevators had less than \$2 but more than \$1 of current assets to each dollar of current liabilities. There remained, then, only 5 percent of the associations which lacked sufficient current assets to cover their immediate obligations, and which were therefore in a rather critical financial position. It will be recalled that dividends declared at the close of the fiscal year were included in current liabilities, and these were the principal, and in some cases the only item of liability.

Table 4.- Relationship between valuations of current assets and current liabilities of Nebraska cooperative elevators, 1935-36

Relation of current assets to current liabilities <u>1/</u>	State		Area 1, northeast Nebraska		Area 2, southeast Nebraska		Area 3, southwest Nebraska	
	Number of associ- ations	Per- centage of total	Number of associ- ations	Per- centage of total	Number of associ- ations	Per- centage of total	Number of associ- ations	Per- centage of total
Current assets 2 or more times current liabilities.	105	80.8	24	72.7	53	82.8	29	87.8
Current assets 1 - 1.9 times current liabilities.	18	13.8	7	21.2	9	14.1	2	6.1
Current assets less than current liab- ilities.	7	5.4	2	6.1	2	3.1	2	6.1
Total	130	100.0	33	100.0	64	100.0	33	100.0

1/ Current assets do not include any receivables classed as slow or uncollectible. Current liabilities include dividends payable declared at close of fiscal year, but not classed as liability in audit.

Associations in area 1, because of their large side-line businesses had a larger percentage of receivables, and therefore were in somewhat less favorable current positions than those in areas 2 and 3. Twenty-seven percent of the associations in that area had current assets of less than twice the amount of current liabilities, as against 17 percent and 12 percent in areas 2 and 3, respectively.

Net Worth

Net worth indicates the equity which the stockholders of the cooperative have in their business. As indicated in table 3, two-thirds of the 130 Nebraska associations studied in 1935-36 had liabilities amounting to less than 20 percent of total assets. In other words, the members of those associations had an equity of 80 percent or more in the assets. For only one-seventh (15 percent) of the associations was membership equity less than 60 percent of total assets. In this low-equity group areas 1, 2, and 3 had 12 percent, 17 percent, and 12 percent, respectively.

The major portion of members' equity in their associations is represented by capital stock. This stock is their original investment, or is stock credited to them from earnings of the associations, or, in some cases, both. The remainder of member-equity consists of reserves and surplus set aside from previous earnings. On the basis of the averages of the three sections (table 1), for each dollar invested in capital stock, surplus and reserves amounted to 6 cents for area 1; 34 cents for area 2, and 34 cents for area 3 in 1935-36. In other words, the surplus and reserve accounts built up by farmers' elevators in southeast Nebraska (area 2) and southwest Nebraska (area 3) were much greater than in northeast Nebraska (area 1).

These average figures showing the relation which surpluses and general reserves bear to outstanding capital stock do not give evidence of the extent to which certain associations in each area may be involved financially, nor the amount of the surpluses which some have built. The relation which the deficits or surpluses bear to outstanding capital stock for the several associations in each area and in the State is shown in table 5. Associations having a deficit amounting to 50 percent or more of their capital stock may find their capital structure very seriously impaired. On the other hand, associations with a surplus equal to or exceeding the par value of their outstanding capital stock should have considerable financial stability. This latter condition is a goal toward which farmers' elevators may well work in areas where the crop hazard is great and business volume quite variable.

Table 5.- Relation of surplus accounts to outstanding capital stock of Nebraska farmers' elevators, 1935-36 1/

Surplus or deficit position	State		Area 1, northeast Nebraska		Area 2, southeast Nebraska		Area 3, southwest Nebraska	
	Number	Per-	Number	Per-	Number	Per-	Number	Per-
	of associ-ations	centage of total	of associ-ations	centage of total	of associ-ations	centage of total	of associ-ations	centage of total
Deficit of 50% or more of outstanding stock	7	5.4	1	3.0	3	4.7	3	9.1
Deficit of less than 50% of outstanding stock	37	28.4	14	42.4	17	26.6	6	18.2
Surplus of less than 50% of outstanding stock	40	30.8	14	42.4	18	28.1	8	24.2
Surplus of 50 - 99% of outstanding stock	20	15.4	3	9.1	12	18.7	5	15.2
Surplus of 100% or more of outstanding stock	26	20.0	1	3.1	14	21.9	11	33.3
Total	130	100.0	33	100.0	64	100.0	33	100.0

1/ Reserves for contingencies and purposes other than depreciation and bad debts are included with surplus. Likewise, stock credits are included with outstanding capital stock.

As shown in table 5, more of the elevators in area 1 had deficits than did those in areas 2 and 3. On the other hand, a smaller proportion of the associations in area 1 had deficits, exceeding half the value of their outstanding capital stock. In short, there appears to be less variation in membership equity among associations in area 1 than in the other two areas where business volume is more uncertain.

Operating Results

Nebraska cooperative elevators operated under none too favorable conditions during the period for which financial data were obtained. By far the majority of these financial statements were for the 1935 calendar year, when grain-handling operations of the elevators surveyed were influenced primarily by the corn crop of 1934 and the wheat crop of 1935. The 1934 corn crop in Nebraska was almost a complete failure, and the 1935 wheat crop was little more than two-thirds of the average annual production of the State. Furthermore, the 1934 wheat crop (marketed, in part, in the early months of 1935) was very short, and the 1935 corn crop (starting to market in the closing months of 1935) was less than half the average annual production.

The grain volume of southwest Nebraska elevators was the most seriously reduced by the poor wheat crops, while the northeast Nebraska elevators which handle a large volume of corn were particularly affected by short corn crops. Even in the southeast area, the 1935-36 grain volume was well below the normal yearly volume.

Despite the reduced grain volume, the majority of the associations studied reported reasonably favorable operating results for 1935-36. A classification of the 130 elevators by amount of net income or loss, for the State and by areas, is presented in table 6. The percentages of gains were higher and of losses were lower in area 2, southeast Nebraska, whereas southwest Nebraska had the largest proportion of associations reporting net losses. Area 1 had the highest proportion (24 percent) of elevators with net incomes in excess of \$4,000.

Table 6.- Net operating results of Nebraska cooperative elevators, 1935-36

Operating results - net income or loss	State		Area 1, northeast Nebraska		Area 2, southeast Nebraska		Area 3, southwest Nebraska	
	Number	Per-	Number	Per-	Number	Per-	Number	Per-
	of associ- ations	centage of total	of associ- ations	centage of total	of associ- ations	centage of total	of associ- ations	centage of total
Loss:								
\$1001 or more	14	10.8	4	12.1	5	7.8	5	15.2
\$ 1 - \$1000	26	20.0	8	24.2	11	17.2	8	24.2
Income:								
\$ 1 - \$1000	32	24.6	9	27.3	15	23.4	7	21.2
\$1001 - \$2000	24	18.5	4	12.1	15	23.4	5	15.2
\$2001 - \$4000	13	10.0	0	0	9	14.1	4	12.1
\$4001 or more	21	16.1	8	24.3	9	14.1	4	12.1
Total	130	100.0	33	100.0	64	100.0	33	100.0

Income and expense statements for the farmers' elevators as an average of the elevators in each of the three areas are shown in table 7; and operating statistics, in table 8. The average grain volumes were 71,362 bushels, 115,870 bushels, and 86,913 bushels for areas 1, 2, and 3, respectively; dollar sales of side lines were \$41,323, \$14,988, and \$19,763. As suggested by the volume figures, the associations of northeast Nebraska had much less income from grain and more from side lines and services in 1935-36 than did those in the other two areas. Southeast Nebraska elevators had the largest grain income in dollars, whereas those in area 3 had the largest proportion of gross operating income from grain. The latter group had a larger volume of side lines, as indicated by dollar sales, but the gross margin realized per dollar of such sales was more than a third less than in area 2.

Table 7.- Income and expense statements for Nebraska cooperative elevators, by areas, 1935-36

	Average of 33: northeast Nebraska cooperative elevators (area 1)	Average of 64: southeast Nebraska cooperative elevators (area 2)	Average of 33 southwest Nebraska cooperative elevators (area 3)
<u>INCOME AND EXPENSES</u>			
<u>Income:</u>			
Grain trading gain	\$ 1,903	\$ 3,555	\$ 3,108
Other grain income	7	105	30
Side-line trading income	4,937	2,033	1,721
Income from services	<u>213</u>	<u>174</u>	<u>116</u>
Total income from operations	7,060	5,867	4,975
<u>Expenses:</u>			
Salaries, wages and commissions	2,663	2,009	1,833
Office, audit and legal	284	182	182
Telephone and telegraph	82	108	98
Light, power and water	166	209	170
Elevator supplies and repairs .	149	119	106
Insurance and bonds	387	248	203
Taxes	434	220	267
Directors' fees	112	57	77
Miscellaneous	369	198	250
Depreciation	<u>971</u>	<u>660</u>	<u>590</u>
Total before interest and bad debts	5,617	4,010	3,776
Bad debts	<u>173</u>	<u>139</u>	<u>226</u>
Total before interest	<u>5,790</u>	<u>4,149</u>	<u>4,002</u>
Net income: Trading and services	1,270	1,718	973
Other income	<u>393</u>	<u>134</u>	<u>208</u>
Total net income before interest	1,663	1,852	1,181
Interest paid	280	143	165
Total net income after interest	<u>1,383</u>	<u>1,709</u>	<u>1,016</u>

Table 8.- Operating statistics for Nebraska cooperative elevators, by areas, 1935-36

Item and unit		: Average : Average : Average		
		: of 33	: of 64	: of 33
		: northeast	: southeast	: southwest
		: Nebraska	: Nebraska	: Nebraska
		: cooperative	: cooperative	: cooperative
		: elevators	: elevators	: elevators
		: (area 1)	: (area 2)	: (area 3)
Grain handled	bushels	71,362	115,870	86,913
Side-line sales	dollars	41,323	14,988	19,763
Gross margin on grain per bushel	cents	2.7	3.1	3.6
Grain expense per bushel	cents	4.2	2.8	3.5
Gross margin on side lines per dollar of side-line sales	cents	12.3	13.6	8.7
Operating income per dollar of sales	cents	7.5	5.2	5.6
Expense (before interest) per dollar of sales	cents	6.2	3.6	4.5
Total sales per dollar invested in fixed assets (undepreciated)	dollars	3.42	7.33	5.57
Total sales per dollar paid in salaries and wages	dollars	34.98	56.16	48.71
Number of members	number	164	124	134
Number of member-patrons	number	125	98	105

The average gross operating income for area 1 was \$7,060; for area 2, \$5,867; and for area 3, \$4,975. The much higher income in area 1 was the result of the large side-line volume - more than twice that of either other area, measured in terms of dollar sales. In that area side lines produced, on the average, 70 percent of the gross operating income, as against 35 percent in the other two areas.

The foregoing discussion has given a general view of the financial status of and operating results obtained by Nebraska farmers' elevators in 1935-36. Attention has been called to certain differences

among elevators in the several areas resulting from differences in conditions under which the elevators operate. There are, however, greater differences between individual elevators within any one of the designated areas than there are between the averages presented for each of the three areas. These will be discussed in greater detail in later sections which give attention to operating problems.

MANAGEMENT PROBLEMS OF NEBRASKA FARMERS' ELEVATORS

The problems facing the management of a Nebraska farmers' elevator are many and diverse. They involve such matters of policy as organization set-up, membership, finance, and credit, as well as those more directly concerning the business operations of the association. These are problems which require the attention not only of the manager but of the board of directors as well. The board of directors is responsible to the association's members for determining matters of policy. The manager is charged with carrying out those policies.

Some of these aspects of the operations of Nebraska farmers' elevators in 1935-36 are discussed on the succeeding pages. Any conclusions drawn from analysis of the data are suggestive rather than final. Final conclusions can hardly be drawn from a single year's data, since such data would be influenced by conditions peculiar to that year.

Cooperative Features of Organization

It was attempted to determine to what extent Nebraska farmers' elevators have observed certain important principles and practices of cooperation in setting up their organizations. A few of the oldest associations, dating back before a cooperative law was on the statute books, have articles of incorporation and bylaws in such form that they do not incorporate the provisions common to most cooperatives, yet they may be farmer-owned and controlled and operate primarily for the benefit of their producer-members. By far the greater number, however, are organized under the cooperative law of 1911 and incorporate the more generally accepted cooperative principles in their articles and bylaws.

Data were obtained in sufficient detail from 129 of the 130 cooperative elevators studied. The articles of incorporation and bylaws of these 129 cooperative elevators were examined and their operating practices considered to determine whether or not the following cooperative principles and practices were provided for or observed:

1. Dividends on share capital do not exceed 8 percent.
2. Only one vote is allowed per member.
3. Membership is limited to producers of farm products.
4. Transfers of capital stock are subject to approval of board of directors.
5. Patronage dividends are distributed to members.
6. Patronage dividends are distributed to nonmembers as well as members.

The number of elevators, for the State and by areas, having each of the provisions listed above in their legal set-up is presented in table 9. The provisions limiting dividends on capital stock and providing for one vote per member were common to the largest number of elevators in each area. Most of the associations in each area also restricted transfers of capital stock and permitted patronage dividends to members. Less than a fourth of the 129 elevators provided for setting up patronage dividends for nonmembers.

Table 9.- Provisions for cooperative features in the legal set-up of 129 Nebraska cooperative elevators, 1935-36

Area	Total number of elevators reporting	Elevators reporting provisions in legal set-up for -					
		Not more than 8 percent dividend on stock	Not more than one vote per member	Member must be producer	Board of directors approve transfer of stock	Distribution of patronage dividends to - Members	Non-members
1	33	31	27	14	25	21	8
2	63	48	54	44	50	53	13
3	33	29	27	23	30	29	9
State	129	108	108	81	105	103	30

The distribution of the 129 farmers' elevators according to the number of the 6 cooperative features previously mentioned which were incorporated in their legal set-up is shown in table 10. Two of the

elevators had none of the 6 provisions listed above, while 19 had all. Even though 95 of the 129 elevators had 4 or more of the cooperative features listed, there is a sufficiently large proportion with a fewer number to indicate an organization problem which might well receive attention.

Table 10.- Distribution of 129 Nebraska farmers' elevators according to the number of cooperative features incorporated in their legal set-up, 1935-36

Number of cooperative features in legal set-up of association	Elevators having indicated number of cooperative features in set-up in -			
	Area 1	Area 2	Area 3	State
0	1	0	1	2
1	1	2	1	4
2	3	5	2	10
3	8	9	1	18
4	9	16	9	34
5	8	23	11	42
6	3	8	8	19

Particular attention is directed to the limited number making use of the provision authorizing the setting up of patronage dividends to nonmembers. This provision usually includes the requirement that such dividends shall first be applied toward purchase of a share of stock, thus serving to keep the membership well distributed among the active producers of the community.

Membership ^{5/} data were available for 96 of the 129 farmers' elevators reporting regarding cooperative features in their organization set-up. Of the 96, 25 had made provision for patronage dividends for nonmembers. A comparison of the average membership of these 25 associations with the average membership of 71 associations having no such provision, and with the average of the 96 elevators, appears in table 11. In each area it may be seen that the associations rewarding nonmember patrons had a distinct membership advantage.

^{5/} Membership, as the term is used in this discussion implies ownership of capital stock. In a very few cases, members have subscribed for capital stock and given notes covering all or part of the value of the shares. In cases where patronage dividends of nonmembers are applied on shares, shares are not issued and membership granted until the full value is earned or the unearned balance paid by the patron desiring membership.

Table 11.- Number of Nebraska farmers' elevators providing for the payment of patronage dividends to nonmembers and the average number of producer-members per elevator, by areas, 1935-36

Area	Elevators with provision for payment of patronage dividends to nonmembers		Elevators with no provision for payment of patronage dividends to nonmembers		All elevators	
	Number reporting	Average number of producer-members	Number reporting	Average number of producer-members	Number reporting	Average number of producer-members
1	6	168	18	137	24	145
2	11	131	35	100	46	109
3	8	118	18	110	26	112
State	25	136	71	112	96	119

Another aspect of the legal set-up has to do with the par value of shares of capital stock. In the early days of the farmers' elevator movement the tendency was to have shares of relatively high par value. By so doing, the associations had greater assurance of getting from members a large part of the capital needed for investment in facilities. The situation has changed, however, with the passage of time. The facilities having been acquired, the need now is more for widespread support among the producers of the community - tenants and landlords as well as owner-operators. To meet this latter need, some associations have reduced the par value of their capital stock to a level within reach of the majority of producers.

The study made of Nebraska farmers' elevators shows that those having capital stock in shares of low par value had a distinct membership advantage over elevators with shares of higher value (table 12). In each of the three areas, elevators with capital stock in shares of \$25 or less had a much higher average membership than those with shares valued in excess of \$25.

Table 12.- Relationship between the par value of capital stock and the average membership per elevator, for 96 Nebraska farmers' elevators, 1935-36

Elevators reporting par : Elevators reporting par : value of capital stock : value of capital stock : All elevators reporting \$25 or less : more than \$25 :									
Area	Number of ele- vators	Average number of producer- members	Average number of all : ele- members:vators	Number of ele- vators	Average number of producer- members	Average number of all : ele- members:vators	Number of ele- vators	Average number of producer- members	Average number of all : ele- members:vators
1	13	179	208	11	105	117	24	145	166
2	22	134	151	24	85	103	46	109	126 "
3	17	128	160	9	82	96	26	112	138
State	52	143	168	44	89	105	96	119	139

The difference in composition of membership between the two groups is shown in table 13. Associations with shares of low par value had a much larger proportion of tenants and a slightly larger proportion of landlords among their membership. To have shares of low par value apparently makes acquisition of membership easier, and consequently more attractive to tenants and thus enables an association to obtain their patronage.

Table 13.- Distribution of ownership of stock of specified par value among members, according to their tenure of land, for 96 Nebraska farmers' elevators, 1935-36

Par value of capital stock	Number of eleva- tors report- ing	Owner-operators		Tenants		Landlords		Other		Total number
		Number	Percent- age of total member- ship	Number	Percent- age of total member- ship	Number	Percent- age of total member- ship	Number	Percent- age of total member- ship	
\$25 or less	52	4,381	50.1	2,045	23.4	1,032	11.8	1,282	14.7	8,740
More than \$25 ..	44	2,816	60.8	686	14.8	431	9.3	701	15.1	4,634
All	96	7,197	53.8	2,731	20.4	1,463	11.0	1,983	14.8	13,374

Number of Members

In 1936 the average membership of the 96 associations as a whole was 139; of those in area 1, 166; in area 2, 126; and in area 3, 138. The smallest membership reported by any association was 15 and the largest 376. Table 14 shows the distribution of the 96 associations, for the State and by areas, on the basis of number of members. One-sixth of the elevators fell in the small membership group - less than 75 members - while more than a third had memberships of 150 or more.

Table 14.- Distribution of 96 Nebraska farmers' elevators by membership groups, 1935-36

Number of members	Associations having indicated membership							
	Area 1		Area 2		Area 3		State	
	Number of elevators	Percent- age of total	Number of elevators	Percent- age of total	Number of elevators	Percent- age of total	Number of elevators	Percent- age of total
Less than 75	3	12.5	8	17.4	5	19.2	16	16.7
75 - 149	8	33.3	26	56.5	11	42.3	45	46.9
150 or more	13	54.2	12	26.1	10	38.5	35	36.4
Total	24	100.0	46	100.0	26	100.0	96	100.0

As to the distribution of membership among owner-operators, tenants, landlords (share) and nonproducers, about 85 percent of the total membership of the 96 elevators was made up of active producers of farm products, including both producers and those landlords receiving share rent (table 15). More than half the members were owner-operators, whereas only 20 percent were tenants. According to the Census of Agriculture of the United States, 1935,^{6/} tenants made up 49.3 percent or nearly half of the total number of farm operators in Nebraska. On the other hand, only 27.9 percent of the farm operators - both owner-operators and tenants - who were members of the 96 farmers' elevators, were tenants. In 21 of the 96 elevators, 9 of which had less than 75 members, tenants made up 10 percent or less of the total number of operator-members. It would seem that these associations, at least, had neglected their membership work.

^{6/} United States Census of Agriculture: Nebraska, County Table I, p. 6.

Table 15.- Distribution of the members of 96 Nebraska farmers' elevators, according to tenure of land, 1935-36

Status of members	State		Area 1, northeast Nebraska		Area 2, southeast Nebraska		Area 3, southwest Nebraska	
	Average number of members	Percentage of total	Average number of members	Percentage of total	Average number of members	Percentage of total	Average number of members	Percentage of total
Owner-operator	75	53.9	83	50.0	70	55.7	76	55.3
Tenant	29	20.4	42	25.3	24	19.4	23	16.6
Landlord (share)	15	10.9	20	11.9	14	11.0	13	9.7
Total producers	119	85.2	145	87.2	108	26.1	112	86.1
Nonproducers	20	14.8	21	12.8	18	13.9	26	18.4
Total members	139	100.0	166	100.0	126	100.0	138	100.0

There was wide variation among the elevators in the proportion of nonproducers in the membership (table 16). In some associations, there were few nonproducers-members; whereas in others a third or more of the membership was made up of nonproducers. In area 3, 12 of the 26 elevators reported 20 percent

Table 16.- Extent of nonproducer membership in 96 Nebraska farmers' elevators, 1935-36

Percentage nonproducers are of total membership	24 elevators in area 1		46 elevators in area 2		26 elevators in area 3		96 elevators in the State	
	Number of elevators	Percentage of total	Number of elevators	Percentage of total	Number of elevators	Percentage of total	Number of elevators	Percentage of total
10 or less	10	41.6	18	39.1	8	30.7	36	37.5
11 - 19	7	29.2	15	32.6	6	23.1	28	29.2
20 - 29	7	29.2	8	17.4	6	23.1	21	21.9
30 or more	0	0	5	10.9	6	23.1	11	11.4

or more of their members to be nonproducers. The high proportion in this section is probably due in large part to continued poor crops, which, together with the depression, have discouraged membership activities during the last several years. Those associations with 20 percent or more of nonproducer-members have a serious membership problem with which to contend in the years ahead.

Membership and Patronage

Data indicating the extent to which the members of Nebraska farmers' elevators support their organizations by giving them their patronage were obtained from 95 cooperative elevators in 1935-36 (table 17). About three-fourths of the members gave most or all their patronage to their associations. Since a part of the membership consists of nonproducers, perhaps a better measure of membership support is the percentage of producer-members who patronize the associations. For the State as a whole, nearly 90 percent of the producer-members were active patrons. Producer-members in area 1 gave somewhat less active support (83 percent) than did those in areas 2 and 3, where 91 and 94 percent, respectively, were patrons.

Table 17.- Membership patronage of 95 Nebraska farmers' elevators, 1935-36

Area	Number of elevators	Number of members per elevator	Number of producer- members per elevator	Number of member- patrons per elevator	Percentage member-patrons are of -	
					Total mem- ber- ship	Pro- ducer member- ship
1	24	166	145	120	72.3	82.8
2	45	126	108	98	77.8	90.7
3	26	133	112	105	76.1	93.8
State	95	139	119	106	76.3	89.1

The high percentage of producer-members doing business with the Nebraska farmers' elevators suggests that the associations were giving generally satisfactory service. Members are seldom so tied to their association that they will continue to patronize it in the face of high operating costs or poor service. It is the task of the management to operate the business so that it will provide good service at reasonable cost. Otherwise, the cooperative can hardly justify its existence.

NET INCOME AS A MEASURE OF EFFICIENCY

A single satisfactory measure of the effectiveness of a cooperative grain elevator association is difficult to find. If the primary objective at time of organization of these associations had been to establish a business which would return large dividends on the investment of stockholders, then their efficiency could be judged by the amount of dividends. Instead, the main interest of farmer-members was to obtain marketing and purchasing service at reasonable cost, and the capital investment was a secondary though necessary consideration in getting such service.

Lacking a better measure of effectiveness of operation, net income is used for that purpose in the succeeding discussion. Ability to get full market price for grain or to purchase supplies of acceptable quality at reasonable cost can hardly be determined accurately by net income from operations alone. Yet net income does provide one measure of operating efficiency, in that it does indicate ability to meet competition, cover operating expenses and safeguard the capital structure.

Net Income and Member-Patronage

Data obtained from 127 Nebraska farmers' elevators indicated some relationship between number of member-patrons and net incomes (table 18). For the State as a whole, 61 percent of the associations with less than 75 members reported net incomes, 69 percent of those with 75 to 149 members, and 81 percent of those with 150 or more members. This relationship of member-patrons to net income was least evident in area 3, southwest Nebraska, where crop failures in some communities resulted in very small grain volume despite large numbers of member-patrons. As a general rule, however, a larger number of member-patrons improves the prospects for realizing a net income.

Table 18.- Net incomes of 127 Nebraska farmers' elevators as related to member-patrons, 1935-36

Number of member-patrons	30 associations: in area 1		64 associations: in area 2		33 associations: in area 3		127 associations: in the State	
	Number of associations	Percent- age of report- ing net incomes	Number of associations	Percent- age of report- ing net incomes	Number of associations	Percent- age of report- ing net incomes	Number of associations	Percent- age of report- ing net incomes
Less than 75	8	50.0	25	64.0	13	61.5	46	60.9
75 - 149	12	58.3	28	78.6	14	57.1	54	68.5
150 or more	10	80.0	11	90.0	6	66.7	27	80.8

Volume and Net Income

A large number of member-patrons and substantial net income are usually associated because of the influence of member-patronage on business volume. Large volume usually results in low unit costs of operation and in this way improves chances for net income. The influence of number of member-patrons on both grain volume and side-line volume of 125 Nebraska farmers' elevators in 1935-36 is shown in table 19.

For the 125 elevators as a group, only 20 percent of the associations with less than 75 member-patrons had grain volumes in excess of 100,000 bushels. Of the elevators having between 75 and 149 member-patrons, 41 percent had volumes greater than 100,000 bushels, while 53 percent of those having 150 or more member-patrons reported such volumes. Taking sales as a measure of side-line volume, the same general relationship between member-patronage and side-line volume existed, though percentages varied. For the three areas of the State this relationship held true except in area 3, southwest Nebraska, where, as previously mentioned, certain communities were particularly hard hit by crop failure, and even large memberships failed to produce business volume.

It is possible, of course, for an association with small membership to have large business volume. In such cases the members must be large producers and patronize the organization regularly, or the association must depend on nonmember-patronage to maintain large volume. In the latter instance, there is constant danger of losing the nonmember-patron unless the association develops some plan of getting such patrons as members.

Table 19.- Grain and side-line volume of 125 Nebraska farmers' elevators as related to number of member-patrons, 1935-36

Number of members patronizing association	Number of associations	Percentage of associations having grain volume -		Percentage of associations having side-line sales -	
		Over 100,000 bu.	Over 150,000 bu.	Over \$5,000	Over \$10,000
Area 1:					
Less than 75	8	12	0	62	50
75 - 149	12	25	8	92	67
150 or more	10	30	20	90	80
Total	30	23	10	83	67
Area 2:					
Less than 75	25	20	4	40	16
75 - 149	28	54	18	75	32
150 or more	10	100	60	100	100
Total	63	48	19	65	37
Area 3:					
Less than 75	12	25	25	92	50
75 - 149	14	29	7	71	43
150 or more	6	33	33	100	83
Total	32	28	19	84	53
State:					
Less than 75	45	20	9	58	31
75 - 149	54	41	13	78	43
150 or more	26	58	38	96	88
Total	125	37	17	74	48

Volume, insofar as it is affected by crop conditions, is largely beyond the control of the management of the elevator association. Volume is, however, influenced by the support given the elevator by the community it serves. To this extent it is definitely a management problem. The management controls in some degree the kind and

cost of service given by the association. It decides membership policies. It considers the advisability of adding or extending side-line activities as a means to increase volume. In such ways and others does management affect business volume.

As has been indicated previously, large business volume usually results in low unit costs of operation which, in turn, increase chances for net income. Data on operations of 130 Nebraska farmers' elevators in 1935-36 support that conclusion. Since volume of business handled includes both grain and side lines, the effect of these items on the operations of the various elevators has been considered separately.

Grain Volume and Net Income

On the basis of grain volume only, 92 percent of those elevators handling 100,000 bushels or more of grain had net incomes, as against 55 percent of the elevators handling less than 100,000 bushels (table 20). A volume of 100,000 bushels or more of grain improved chances of realizing net income in each area, irrespective of the importance of side lines. On the basis of 1935-36 results, there was only one chance in ten of loss among the large-volume elevators as against more than four in ten among the small-volume group.

Table 20.- Number and percentage of 130 Nebraska farmers' elevators having net incomes, by volume groups, 1935-36

Area and bushels of grain handled	Number of elevators	Number of elevators having net losses	Number of elevators having net income	Percent- age of elevators having net income
<u>Area 1:</u>				
Less than 100,000	26	11	15	57.7
100,000 or more	7	1	6	85.7
<u>Area 2:</u>				
Less than 100,000	32	13	19	59.4
100,000 or more	32	3	29	90.6
<u>Area 3:</u>				
Less than 100,000	24	13	11	45.8
100,000 or more	9	0	9	100.0
<u>State:</u>				
Less than 100,000	82	37	45	54.9
100,000 or more	48	4	44	91.7

Not only were the chances for net income less among small-grain-volume elevators, but the opportunity for large net income was also less. If only the associations having net incomes are considered, a much higher proportion of the large-grain-volume elevators had net incomes of \$2,000 or more in 1935-36 than did those handling less than 100,000 bushels of grain (table 21). Only in northeast Nebraska (area 1), where side-line business often dominates the grain business in importance, did any of the small-grain-volume elevators have net incomes exceeding \$4,000.

Table 21.- Relationship between amount of net income and volume of grain handled, for 89 Nebraska farmers' elevators having net incomes, 1935-36

Area and net income	Elevators with net income handling less than 100,000 bushels		Elevators with net income handling 100,000 bushels or more	
	Number	Percentage of total	Number	Percentage of total
<u>Area 1:</u>				
0 - \$2,000	11	73.3	2	33.3
\$2,001 - \$4,000	0	0	0	0
\$4,001 or more	4	26.7	4	66.7
Total	15	100.0	6	100.0
<u>Area 2:</u>				
0 - \$2,000	14	73.7	16	55.2
\$2,001 - \$4,000	5	26.3	4	13.8
\$4,001 or more	0	0	9	31.0
Total	19	100.0	29	100.0
<u>Area 3:</u>				
0 - \$2,000	10	90.9	2	22.2
\$2,001 - \$4,000	1	9.1	3	33.3
\$4,001 or more	0	0	4	44.5
Total	11	100.0	9	100.0
<u>State:</u>				
0 - \$2,000	35	77.8	20	45.5
\$2,001 - \$4,000	6	13.3	7	15.9
\$4,001 or more	4	8.9	17	38.6
Total	45	100.0	44	100.0

Side Lines and Net Income

Volume of grain is not the only measure of the volume of business done by the cooperative elevator. Income from side lines and services frequently affects the ability of an elevator association to cover expenses of operation, although its importance varies in the several areas. In northeast Nebraska, it will be recalled, gross income from side lines made up 70 percent of the average gross operating income in 1935-36; whereas in the southeastern and southwestern areas the volume of side lines handled is relatively small. There are also marked variations in the importance of side lines among elevators in each area. In order to study the effect of these differences on the financial status and operating results, the elevators of each area were divided into four groups, based upon the size of grain volume and relative importance of side lines.

The elevators were first separated on the basis of grain volume. Those handling 100,000 bushels of grain or more during the fiscal year were classed as large-grain-volume elevators, and those handling less than that volume as small-grain-volume elevators. The relative importance of side lines in the total business of the elevator might be measured in several ways. The measure chosen was the extent to which the elevators depended on gross income from side lines and services, such as grinding and weighing, to pay operating expenses. This measure is important from a practical standpoint, since one main objective of adding side lines to the grain business is to provide an added source of income to help pay operating expenses, especially during periods of low grain volume.

When its income from side lines and services was sufficient to cover 40 percent or more of the operating expenses (total expenses before interest charges), the elevator was placed in the large-side-line group. When income from such sources covered less than 40 percent of expenses, side lines were considered relatively unimportant in the elevator's operations.

As a result of this basis of classification the elevators of each area were divided into four groups, namely: (1) small-grain-volume, small-side-line; (2) small-grain-volume, large-side-line; (3) large-grain-volume, small-side-line; and (4) large-grain-volume, large-side-line. The percentages of elevators in each group which had net income in 1935-36 are shown by areas in table 22.

Table 22.- Percentage of 130 Nebraska farmers' elevators having net income, by grain volume and side-line income, 1935-36

Area and group	Number of elevators	Percentage having net income
<u>Northeast Nebraska:</u>		
Small grain volume, small side-line income	5	40.0
Small grain volume, large side-line income	21	61.9
Large grain volume, small side-line income	3	66.7
Large grain volume, large side-line income	4	100.0
<u>Southeast Nebraska:</u>		
Small grain volume, small side-line income	21	57.1
Small grain volume, large side-line income	11	63.6
Large grain volume, small side-line income	17	88.2
Large grain volume, large side-line income	15	93.3
<u>Southwest Nebraska:</u>		
Small grain volume, small side-line income	15	40.0
Small grain volume, large side-line income	9	55.6
Large grain volume, small side-line income	5	100.0
Large grain volume, large side-line income	4	100.0

In each area, those associations with both small grain volume and small side-line income appeared handicapped in making net income. The addition of a relatively large side-line income to a small grain volume increased chances of covering expenses of operation. The associations with large grain volume had less need for the additional income from side lines, although those elevators with both large grain volume and large side-line income were in best position to show net income. These percentages suggest that the problem is mainly one of obtaining a fairly large total volume - whether of grain, or side lines, or both. When and where grain volume is lacking, side lines may become a substitute source of business volume.

A substantial side-line business appears to be of greatest importance to those elevators that can expect to handle, on the average, less than 100,000 bushels a year. This is especially true of many associations in northeast Nebraska. In southwest Nebraska where the crop hazard is greatest and grain volume highly variable, the addition of side lines offers a means of equalizing business volume somewhat and provides a supplemental source of income in poor crop years.

UNIT COSTS OF OPERATION

Thus far in the discussion of elevator operations, net income has been used as the measure of effectiveness of operation. Another possible indicator of operating efficiency is the unit cost of operation - expense per bushel or expense per dollar of sales - since associations with lower unit costs of operation have a distinct advantage in holding their places in the market. While it offers a measure of effectiveness in handling the products, it does not indicate how well the farm products are sold, or the farm supplies purchased.

Grain Volume and Per Bushel Expense

An attempt was made, with the assistance of the elevator managers, to allocate roughly that part of expense chargeable to grain for each elevator studied. Admittedly, it was not possible to make an accurate allocation of costs, but it was possible to make comparisons in operating costs among the various elevators and elevator groups.

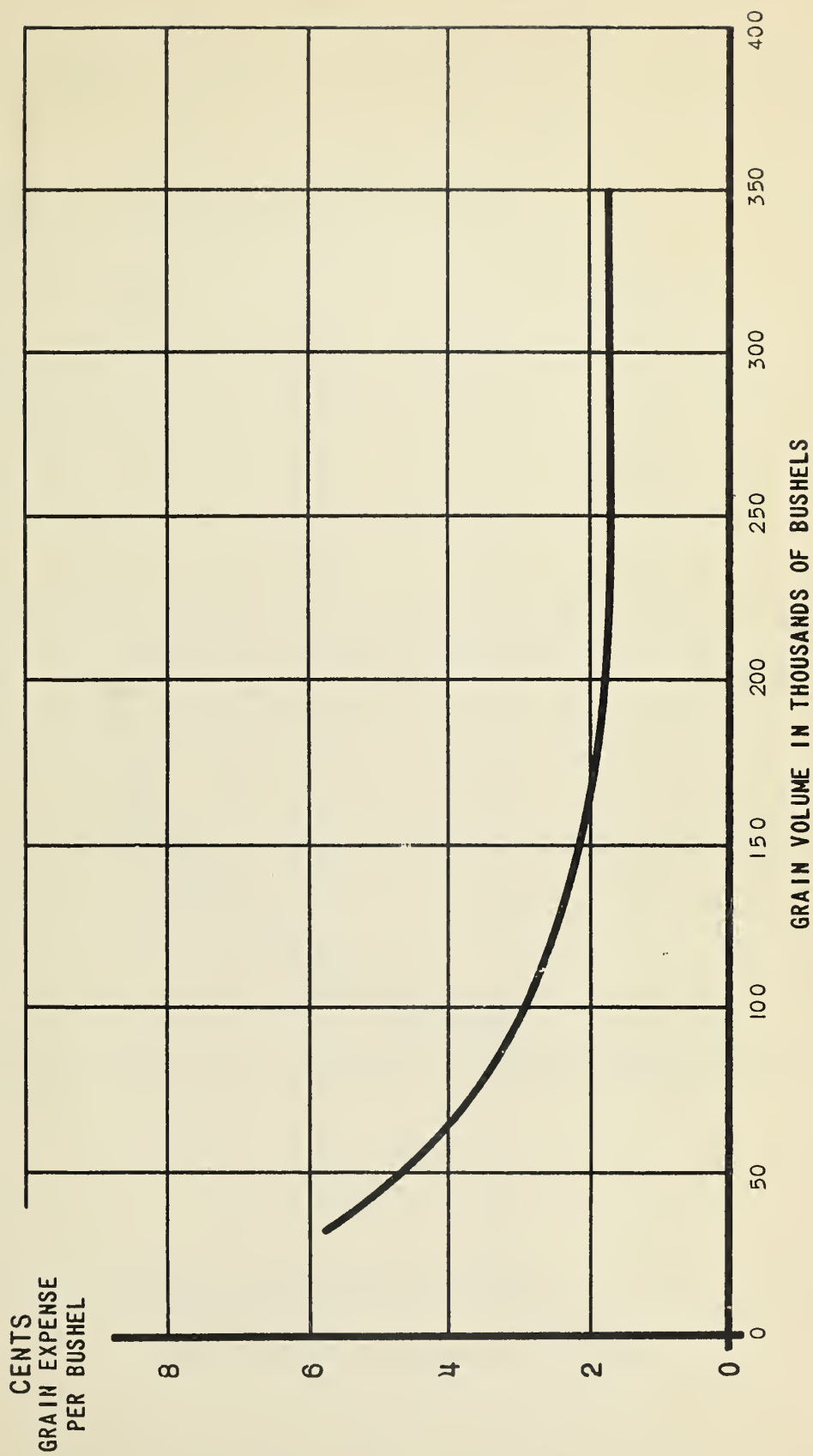
Figure 2 indicates a definite relation between grain volume per elevator and grain expense per bushel for 64 elevators in southeast Nebraska. As may be seen, the operating expenses per bushel tend to decrease as grain volume is increased. An increase in volume up to 150,000 bushels, however, was found to be more effective in reducing expense per bushel than increases beyond that quantity. For example, the operating cost per bushel for an elevator handling 50,000 bushels was approximately 5 cents; for one handling 100,000 bushels, 3 cents, a decrease of 2 cents per bushel. A volume of 150,000 bushels brought the bushel cost down to 2 cents, but volumes of more than 150,000 bushels brought no further marked decreases in expense per bushel.

Size of Elevator Plant and Costs per Bushel

Among the items of expense in operating a grain elevator are depreciation, repairs, insurance and taxes on the physical plant - the elevator and its equipment - which keep on accumulating from day to day regardless of whether grain is handled or not. Such building

FIGURE 2

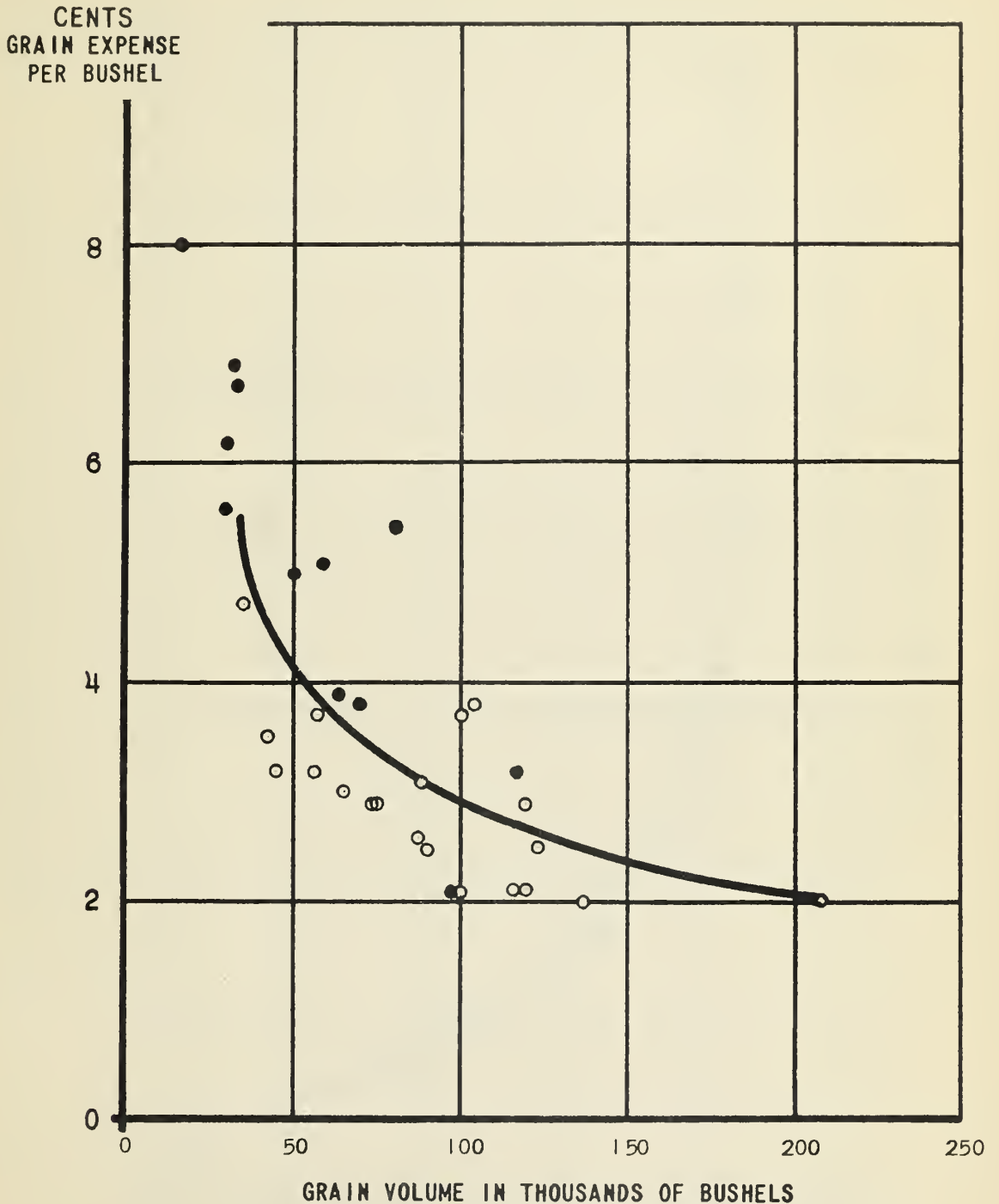
RELATION BETWEEN VOLUME AND GRAIN EXPENSE PER BUSHEL,
SOUTHEAST NEBRASKA ELEVATORS, 1935-36



Grain operating expenses tend to decrease as volume of grain is increased.

FIGURE 3

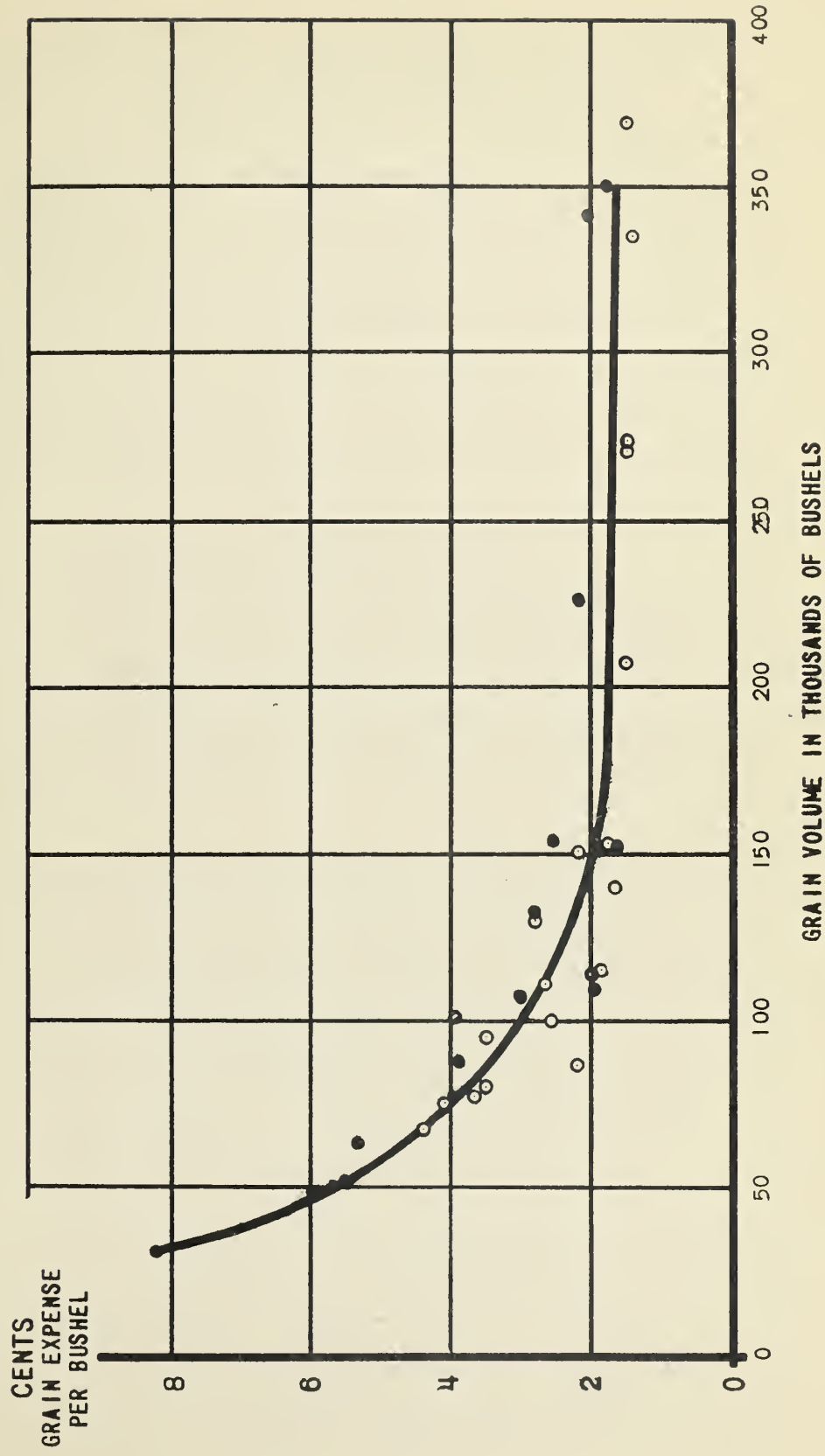
RELATION BETWEEN VOLUME AND GRAIN EXPENSE PER BUSHEL FOR FARMERS' ELEVATORS OF SMALL CAPACITY IN SOUTHEAST NEBRASKA, 1935-36



Each dot or circle represents the volume and cost per bushel for a single association, a dot representing a loss and a circle an income from grain handling.

FIGURE 4

RELATION BETWEEN VOLUME AND GRAIN EXPENSE PER BUSHEL FOR FARMERS' ELEVATORS
OF LARGE CAPACITY IN SOUTHEAST NEBRASKA, 1935-36



Each dot or circle represents the volume and cost per bushel for a single association, a dot representing a loss and a circle an income from grain handling.

costs are quite definitely fixed. If these costs are distributed over a large grain volume, the cost per bushel is low; if a small volume is handled, the cost carried by each bushel is high.

Plant capacity, as the only measure of the extent of grain-handling facilities readily available, was used as the basis for showing the relation between volume and operating costs for south-east Nebraska elevators (fig. 3 and 4). Figure 3 shows the relation for elevators of small capacity (less than 25,000 bushels) and figure 4, for those of large capacity (25,000 bushels or more). It may be seen that when grain volume was small, the costs per bushel of the small capacity plants were well below those of the larger plants. When grain volumes exceeded 100,000 bushels, the advantage of the small capacity elevators in bushel costs disappeared. Those associations having losses had higher bushel costs in most cases than those of associations of similar volume which had net incomes.

Other Factors Influencing Unit Costs

Operating costs are also affected by the extent to which the time of employees and the facilities of the physical plant are utilized. Mention has already been made of the size of the elevator plant as a factor influencing bushel costs. In that connection grain volume gave some indication of the extent plant and labor were utilized. Dollar sales of grain and side lines is a common measure of business volume which reflects the influence of both grain and side-line volume.

Some indication of how well the time of employees was utilized was obtained from relating business volume, as indicated by dollar sales of grain and side lines, to the amount of expenditures made for labor and management - in other words, determining dollar sales per dollar paid in salaries and wages. Likewise, relating dollar sales to the original investment in fixed assets gave a rough measure of the extent to which the elevator plant and equipment was being used. The undepreciated value rather than the depreciated value of fixed assets was used in this connection because the former is a better indicator of the working capacity of the physical plant. Expense per dollar of sales was used to indicate how effectively operations were conducted from the cost standpoint.

The relation between sales per dollar paid in salaries and wages and expense per dollar of sales indicated definitely the advantage held by associations making full use of employees' time. When sales per dollar paid in salaries and wages were less than \$20, expense per dollar of sales was very high - often over 10 cents (see fig. 5). When business volume was such that sales per dollar paid in salaries and wages amounted to \$60 or more, cost per dollar of sales fell below 4 cents, putting an association having such a low unit cost in very favorable operating position.

The relationship between sales per dollar invested in fixed assets and expense per dollar of sales is shown in figure 6. When sales per dollar of fixed assets were as little as \$4, expense per dollar of sales was often 8 cents or more. When sales were as much as \$8 for each dollar invested in facilities, expense per dollar of sales ran close to 3-1/2 cents. An association with such a low unit cost is placed in position to meet almost any kind of competition and to handle its patrons' grain and supplies on narrow margins.

CONCLUSIONS

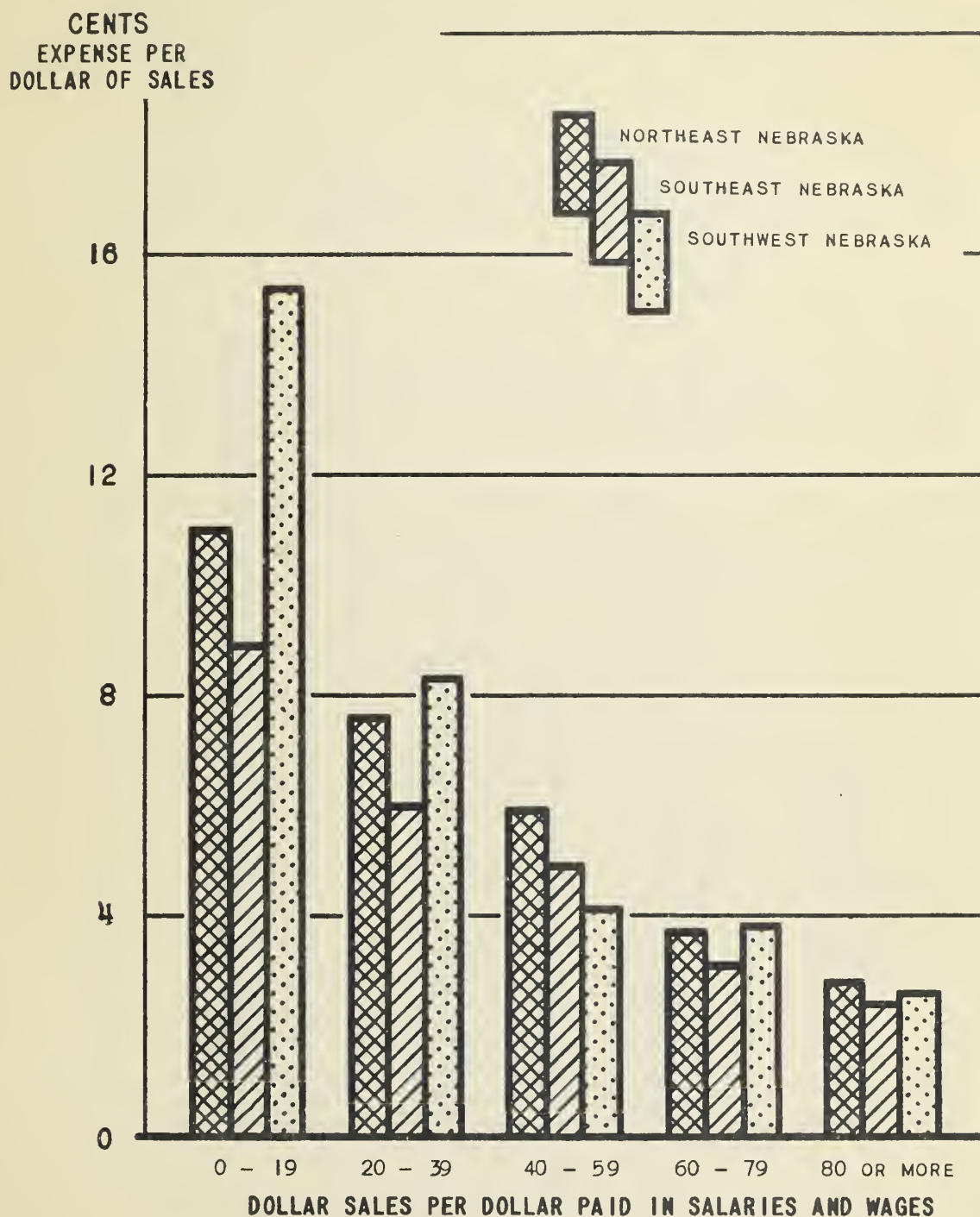
The farmers' elevator movement in Nebraska may be definitely credited with having broken the monopoly conditions which existed in the grain trade 40 years ago^{7/}, and having reduced local grain handling margins to the point where they approach a cost basis. That having been accomplished, the continued existence of farmer-owned elevators depends on their ability to keep operating costs down and to do an effective job of selling the farmers' grain. The associations which have best met this challenge by operating on a sound business basis remain in operation today, setting the pace which other grain-handling agencies must follow.

This study of the financial status and operations of a representative group of Nebraska farmers' elevators for the crop year of 1935-36 shows them to have been, with a few exceptions, in excellent financial condition. Operating results were influenced largely by business volume, the latter varying among the associations, partly because of differences in crop conditions and trade territories, and partly because of factors largely within the control of the management. Size and loyalty of membership, and ability to utilize the elevator's personnel and physical plant were found to be important factors influencing unit costs and net income. As pointed out early in this report, since this study covered operations for only a single year, the results can be considered only as suggestive of what additional study will show, rather than as final and conclusive.

^{7/} A discussion of early days in the Nebraska grain trade and of the influence of the farmers' elevator movement may be found in: Filley, H. C. Cooperation in Agriculture, 468 pp., illus., 1929.

FIGURE 5

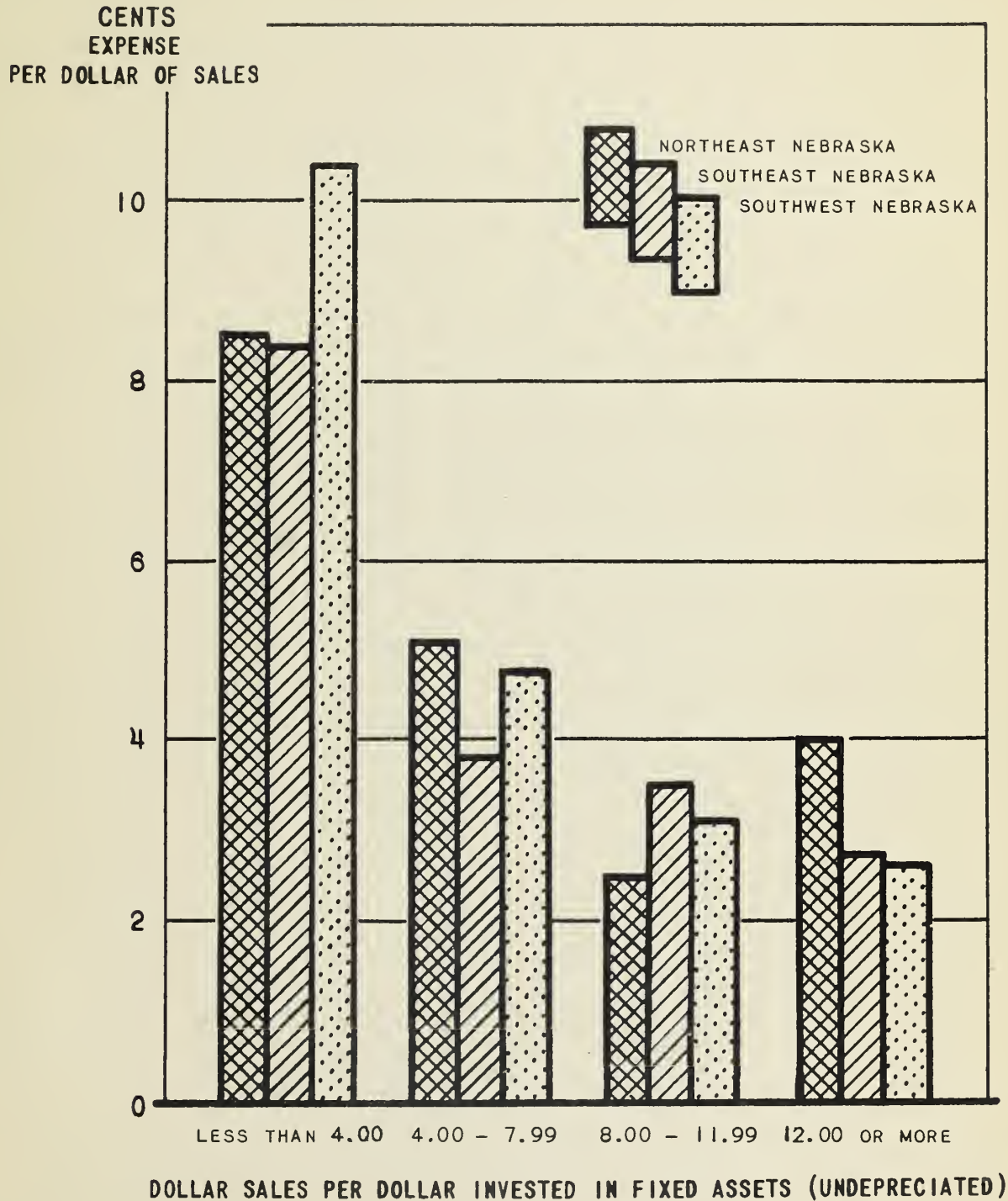
EXPENSE PER DOLLAR OF SALES AS INFLUENCED BY USE MADE OF TIME OF
EMPLOYEES OF NEBRASKA FARMERS ELEVATORS, CROP-YEAR 1935-36



The relation between sales per dollar paid in salaries and wages and expense per dollar of sales indicates definitely the advantage held by associations making full use of employees' time.

FIGURE 6

EXPENSE PER DOLLAR OF SALES AS INFLUENCED BY EXTENT FACILITIES ARE USED, NEBRASKA FARMERS ELEVATORS, CROP YEAR 1935-36



When sales per dollar invested in facilities were low, expense per dollar of sales ran high.

